

423-2

ROOF FLASHING HANDBOOK

DETAILS AND SPECIFICATIONS



423-2.

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*Y*EARS ago The Barrett Company brought out The Barrett Specification for flat roofs for permanent buildings. This specification has simplified and standardized roofing practice to an extent that even our own engineers did not foresee at the time.

We have now gone a step further and applied the same engineering skill to the solving of another big roofing problem—that of providing reliable standard Flashings.

The result is the Flashings described in the following pages. Architects and Engineers can now specify these Flashings with the same confidence which they have been able to write "Barrett Specification" into their building specifications for so many years.

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Barrett ROOF FLASHINGS

AT LAST—STANDARD FLASHINGS.

A VERY large proportion of the leaks that are wrongfully attributed to the roofing are really due to defective Flashings.

Years ago The Barrett Company recognized the many weaknesses of existing Flashings, particularly the metal and so-called plastic systems for vertical walls. Since that time we have made countless experiments in the field and have exhaustively tested every known form and type of Flashing, noting carefully its defects as well as its favorable features.

As the result of these tests, we have developed an entirely new line of practical Flashings that satisfactorily fulfill every requirement, whether for brick or concrete construction.

The various materials generally used for Flashings, such as tin, galvanized iron, copper, lead and plastic slate, all have inherent weaknesses which tend to cause their eventual failure.

Metal Flashings have these drawbacks:

Flashings of copper or other metal, as usually installed, depend upon the holding power of cement mortar (for which they have little affinity) to keep them tightly in place.

Detachment of metal cap flashings from walls is a frequent occurrence. Whether lock-seam or soldered joint, they are liable to break apart at the joints.

Responsibility for the water-tight properties of the roof is frequently divided between the roofer and the sheet metal contractor.

Where stepping the Flashing is necessary, and it usually is necessary because of drainage slopes, it unavoidably leaves openings for rain to drive in behind the stepped joints.

Tin and galvanized iron require frequent painting to prevent rust.

Plastic slate flashings are unreliable because of the uncertain mixture of the slate dust or other inert ingredients with the tar base. Faulty mixture results in imperfect adhesion to the wall. Since these flashings do not enter the wall, and have no capping, but rely entirely on adhesion to the vertical surface to keep them in place, they frequently drop away from the wall. A second result of faulty mixture is a decrease in the elasticity of the flashing, which involves hardening with consequent breaking, cracking, crumbling and early disintegration under the wear of weather and the stresses to which all flashings are subject. Thus eventually, these flashings expose the interior of the building to the very danger they are supposed to prevent.

Barrett Flashings, which are the result of over sixty years of successful roofing experience, satisfactorily overcome all of these conditions. They embody all of the following essential features:

They provide amply for expansion and contraction.

Their elasticity takes care of settlement or shrinkage.

All joints are watertight under every weather condition.

They will not pull away from either roof or wall.

They are practical and easy to install.

They are adaptable to every complex wall construction.

They are durable and require no maintenance or repair.

They eliminate division of responsibility between contractors.

Their cost is moderate.

Barrett Flashings are offered to architects, engineers, contractors and owners of buildings with the assurance of proved knowledge that they will give maximum watertight service if the simple specifications herein provided are followed. Their freedom from repair or maintenance expense, combined with their durability and weather-proof qualities under all conditions, make them the most economical, as well as the most efficient Flashings on the market.

BARRETT

FLASHING BLOCKS AND FLASHING FOR BRICK WALLS



BARRETT FLASHING BLOCKS

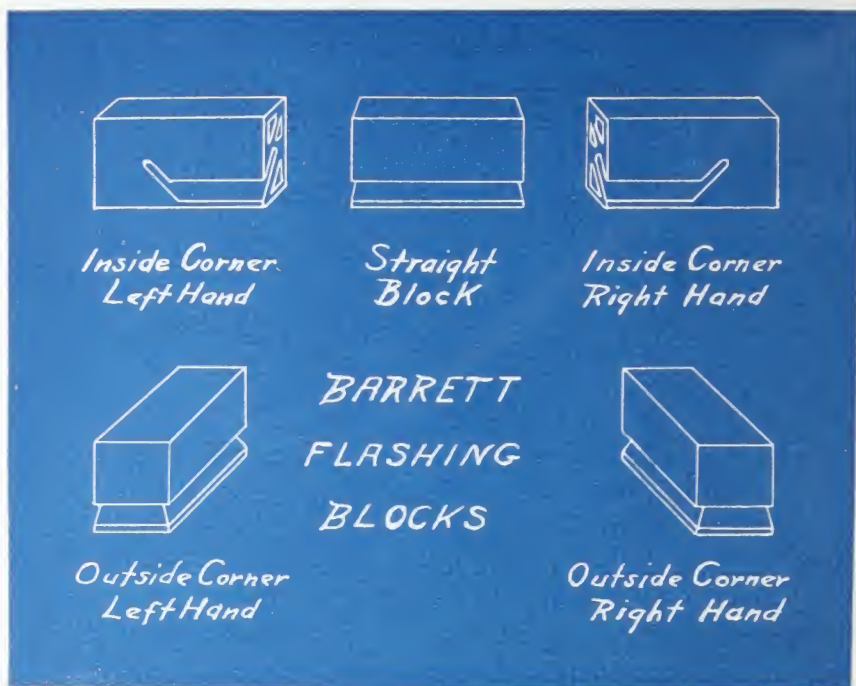
THESE blocks provide a permanent upwardly inclined Flashing groove in the wall, which performs the function of a cap and weather protection for the Flashing itself. This cap, being an integral part of the wall, is as permanent as the wall itself, and can not become detached.

The Flashing material is installed over one unbroken plane, eliminating the buckling, tearing, pocketing and special wear

NOTE—The flashing groove of Barrett Flashing Block has the same incline and dimensions as that of Barrett Flashing Form for use in concrete walls. Hence when brick walls intersect concrete walls or columns, a continuous flashing groove is readily secured by the use of these two devices. This greatly simplifies the problem of flashing installation where this situation occurs.

*Corner of
Roof Showing
Flashing Blocks
and Flashing
Installed.*





BARRETT FLASHING BLOCKS

CONTINUED

which so frequently occur where Flashings are turned in at right or acute angles. The cant construction provides support from below throughout the extent of the flashing; hence there is no strain from wind and gravity.

Barrett Flashing Blocks are 8" long, 5" high, 4" wide, each Block displacing two bricks. Internal and external angle blocks (rights and lefts) of the same size are provided for wall corners. The flashing groove extends in the block to a depth of 2" from the face, is $\frac{5}{8}$ " wide at the opening and $\frac{1}{2}$ " wide at the upper extremity.

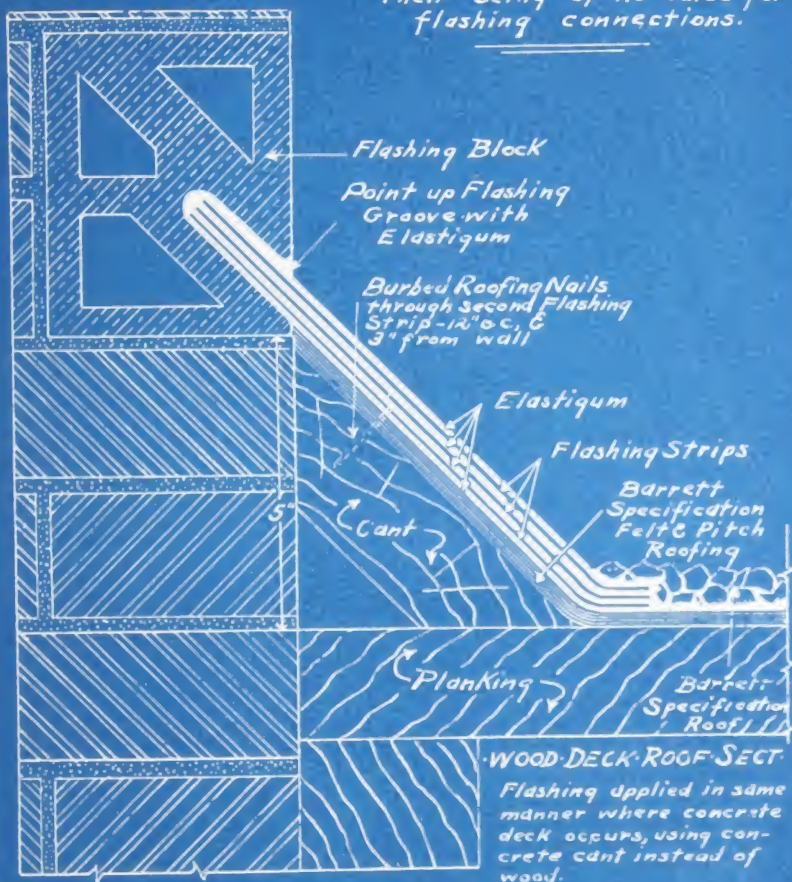
BARRETT FLASHING STRIPS

AND

BARRETT ELASTIGUM

For detailed description of Barrett Flashing Strips and Barrett Elastigum, see page 47.

It is most important that Barrett Flashing Blocks be installed exactly as specified. Failure to do this lessens their value, and may result in their being of no value for flashing connections.



The base of Flashing Blocks shall be set 5" above and parallel with the finished grade line of the roof at the wall.

Drainage slopes can usually be arranged so that the roof grade line at wall is horizontal. Where finished grade line is not horizontal, the brick courses directly above and below the Flashing Blocks must be cut or arranged to parallel finished grade line of roof at the wall.

A 45° cant is formed in angle of roof deck and wall, finishing $\frac{1}{4}$ " below edge of flashing groove.

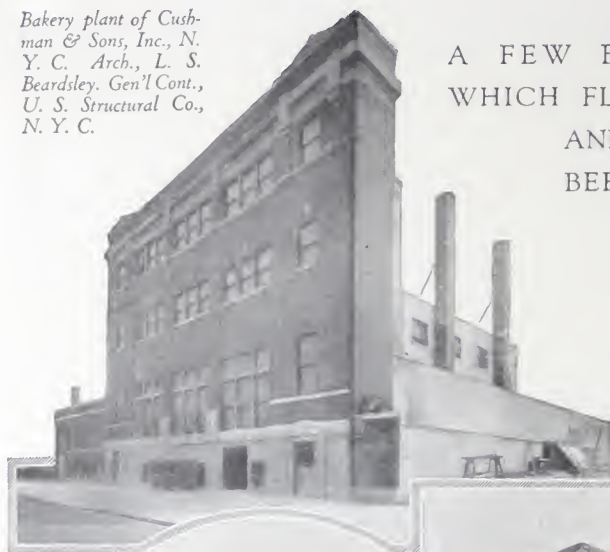
After roofing felt is in place and before roof surfacing is applied, flashing strips are installed and flashing groove is pointed up with Elastigum.

Cross-section of Barrett Flashing Block and Flashing

PAT. U. S. JAN. 22 1918 NO. 1254292
PAT. CANADA FEB. 12 1918 NO. 182279

For Brick Walls—
Wood or Concrete Decks

Bakery plant of Cushman & Sons, Inc., N. Y. C. Arch., L. S. Beardsley. Gen'l Cont., U. S. Structural Co., N. Y. C.



A FEW BUILDINGS IN
WHICH FLASHING BLOCK
AND FLASHING HAVE
BEEN INSTALLED



American Agricultural Chemical Co., Everett, Mass
Turner Construction Co., Arch. & Gen'l Cont.



Continuous flashing made with Barrett Flashing Block and Flashing Form in brick and concrete walls. Bristol-Meyers Plant, Elizabeth, N. J.



Norwalk Hospital, Norwalk, Conn. Borng & Tilton, N. Y. C., Architects.



Miller Cotton Co., Dallas, Texas. Lockwood Green & Co., Atlanta, Ga., Arch. W. C. Hendrick Construction Co., Dallas, Texas, Gen'l Contractor.

SPECIFICATION FOR INSTALLATION OF BARRETT FLASHING BLOCK AND FLASHING IN BRICK WALLS



IMPORTANT NOTICE TO ARCHITECTS AND ENGINEERS—
It is most important that Barrett Flashing Block be installed exactly as
specified. Failure to do this lessens its value and may result in its
being of *no value for flashing connections.*

FOR MASONRY SPECIFICATION

BARRETT FLASHING BLOCK shall be built into walls
as shown on Drawing No.—. The base of the Block
shall be set five inches above and *parallel* with the *finished*
grade line of the roof at wall, as shown on plans.

Blocks shall be laid in true alignment, set in Portland
Cement Mortar, and joints shall be properly pointed. The
flashing groove of the Block shall be thoroughly cleaned of all
surplus mortar.

NOTE—Special Blocks are manufactured for use at right angle external and internal
wall corners. See page 6.

FOR CARPENTRY SPECIFICATION IF ROOF DECK IS OF BOARDS

At angle of roof deck and the walls in which Flashing
Block has been installed, provide a cant, the upper edge of
which shall terminate $\frac{1}{4}$ " below the flashing groove. The
face of the cant shall have the same incline as the flashing
groove in the Block. The cant shall be securely fastened to
the roof deck.

FOR MASONRY SPECIFICATION IF ROOF DECK IS OF CONCRETE OR GYPSUM

At angle of roof deck and the walls in which Flashing Block
has been installed, provide a cant that will permit of nailing,

the upper edge of which shall terminate $\frac{1}{4}$ " below the flashing groove. The face of the cant shall have the same incline as the flashing groove.

FOR ROOFING SPECIFICATION

NOTE—This Flashing shall be installed before gravel, slag, tile, or other surfacing material is applied to the roof surface.

FIRST—Before applying Flashing material the flashing groove shall be thoroughly cleaned of all mortar or other foreign material.

SECOND—The Felt and Pitch roofing shall be extended up the face of the cant to the wall line and cut off evenly at that point. The layers of Felt shall be solidly cemented together with Pitch and be free from wrinkles or buckles.

THIRD—Over the roofing, covering the cant, and up into the full depth of the flashing groove, apply a heavy uniform layer of Elastigum, into which embed one layer of Barrett Flashing Strip. The joints of the Flashing Strip shall be butted and the Strips shall extend into the full depth of the flashing groove. This operation shall be repeated until three layers of Elastigum and three layers of Flashing Strip have been applied. The second Flashing Strip shall be nailed every twelve inches, three inches from the wall. The Flashing Strips shall be laid so that each layer shall break joints with the underlying layer.

FOURTH—Over the entire surface of the Flashing Strips thus laid, apply a thin uniform layer of Elastigum. The flashing groove shall then be pointed up with Elastigum. If in warm weather the Elastigum pointing does not stay in place, completely filling the flashing groove, stir a small quantity of Portland Cement into the Elastigum.

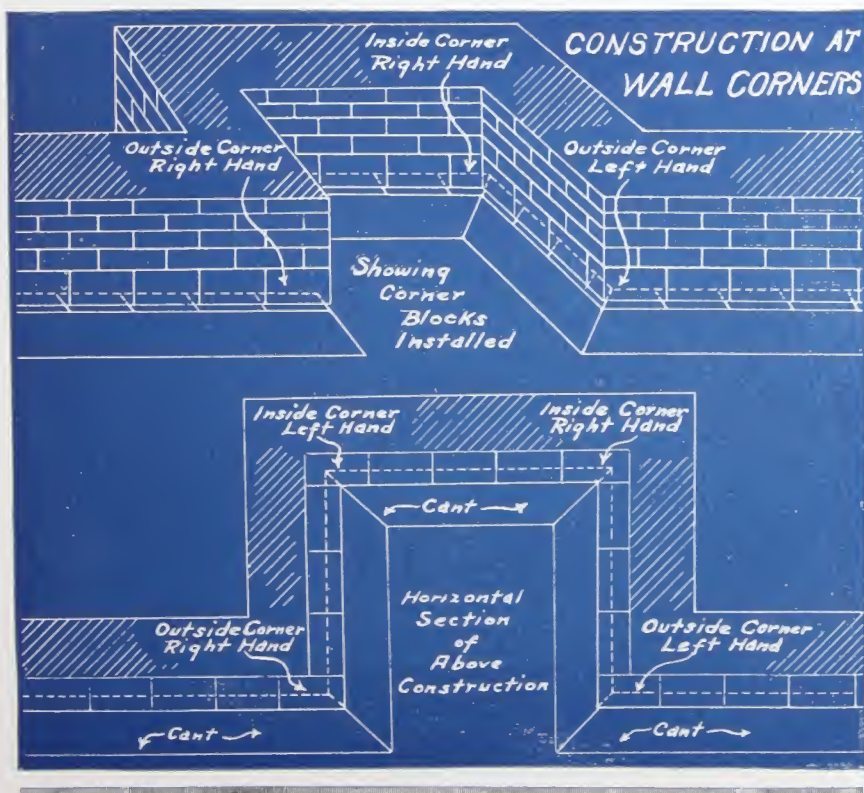
FLASHING PROBLEMS SIMPLIFIED

A distinct advantage of this type of flashing is the simplicity of its installation, even when the wall-line is very irregular. When metal flashings are used, every wall angle

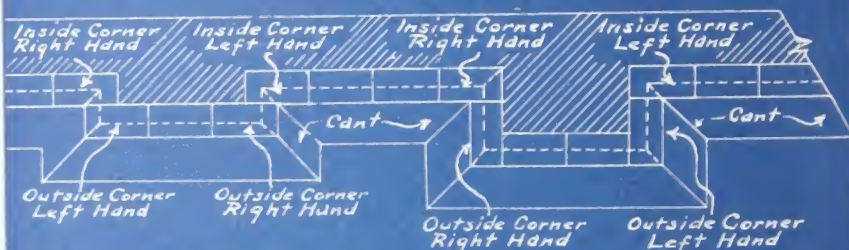
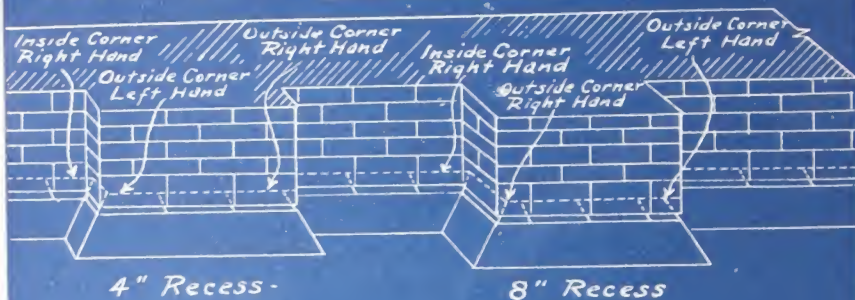
means another process of cutting and fitting and joining, and every joint is a point of weakness. With the various corner blocks which are included with each shipment of Barrett Flashing Blocks, according to the requirements of the construction in question, this problem is made very simple.

The difficulty of making a proper flashing joint is greatly increased where brick and concrete wall construction intersect, as in the case of concrete columns with intervening brick curtain walls, of concrete parapet walls with intersecting brick fire walls or pent house walls, etc. With the use of Barrett Flashing Block and Barrett Flashing Form a continuous flashing groove is provided having the same dimensions and the same incline.

The following drawings will illustrate the methods of taking care of typical situations.



· CONSTRUCTION · AT · WALL · RECESSES ·



Horizontal Section

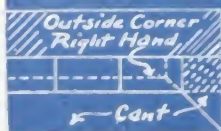
of the Above Construction.

· CONSTRUCTION · AT · FREE · WALL · ENDS ·

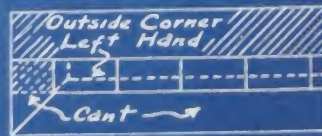


This construction is used at all free wall ends, and where the flashing groove is interrupted by a door, scupper, etc.

Set omitted bricks after Flashing Strips are installed.



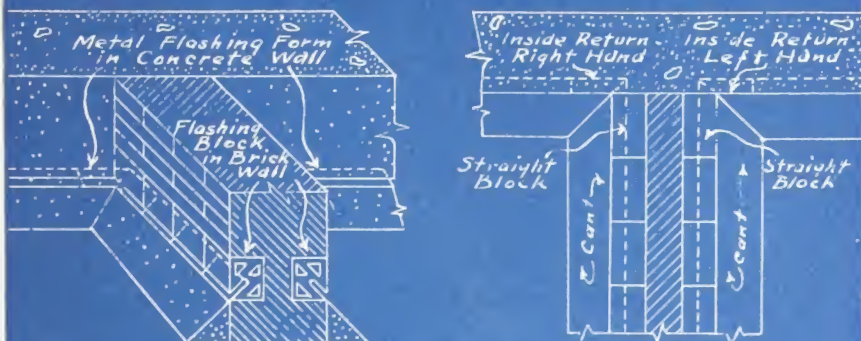
Horizontal Section of the Above Construction



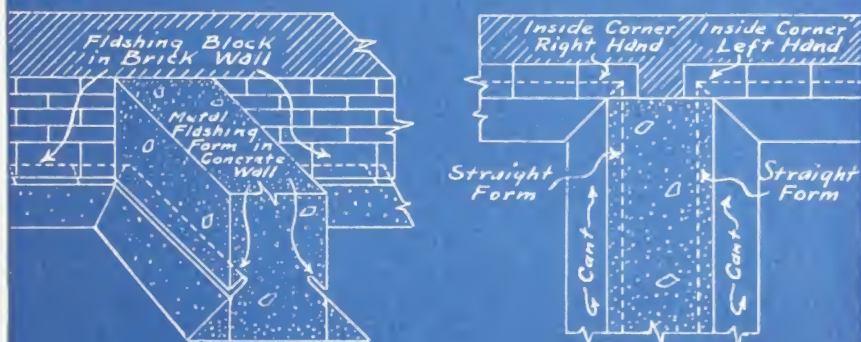
The Flashing Groove is terminated with an Outside Corner Block 5" from the wall end, and the bricks in the lower corner are omitted to permit the returning of the cant into the wall as shown above. After the Flashing Strips have been applied, the omitted bricks are set, being cut to accommodate the cant.

CONSTRUCTION WHEN CONCRETE & BRICK JOIN

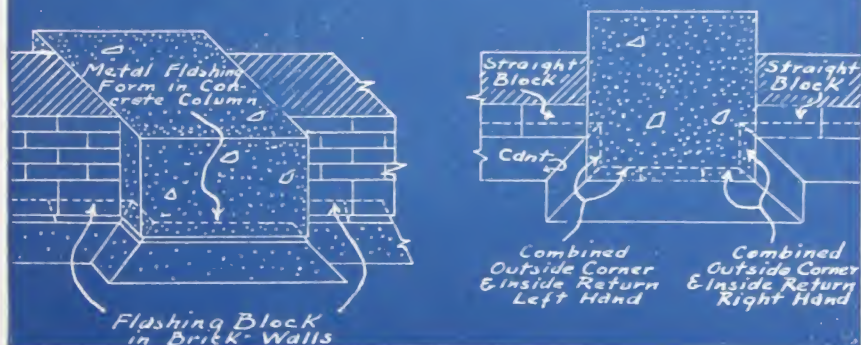
A. BRICK WALL BUTTING CONCRETE WALL



B. CONCRETE WALL BUTTING BRICK WALL

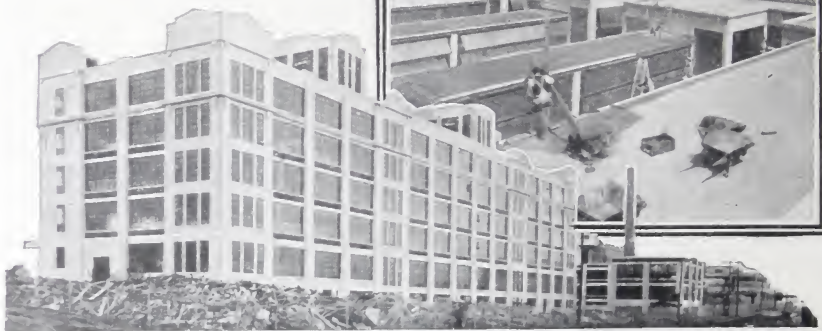


C. BRICK WALL BUTTING CONCRETE COLUMN



A FEW BUILDINGS IN WHICH BARRETT FLASHING FORM AND FLASHING HAVE BEEN INSTALLED

Below: Factory of Bristol-Meyers Co., Elizabeth, N. J. Eng., C. Christensen. Gen'l Cont., Turner Construction Company.



Typical job showing how Barrett Flashing Form and Flashing meet the problem of angles and corners. Turner Construction Co., Eng. & Gen'l Cont.



Below: Factory of Gardner-Lucas Co., Inc., Brooklyn, N. Y. J. G. White Engineering Corporation, N. Y. C., Eng. & Gen'l Cont.



Above: Factory of Chicago Pneumatic Tool Co., Detroit, Mich. Westinghouse-Church-Kerr Co., New York City, Eng. & Gen'l Cont.



U. S. Army Supply Base, Brooklyn, N. Y. Architect, Cass Gilbert. Eng. & Gen'l Cont., Turner Construction Company, N. Y. C.

BARRETT

FLASHING FORM AND FLASHING

FOR CONCRETE WALLS

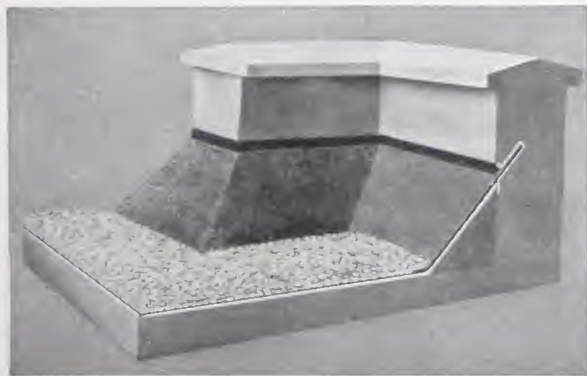


BARRETT FLASHING FORM

THIS Flashing Form is identical in principle with the Flashing Blocks described on Pages 5 and 6. The metal Flashing Form, as shown in detail on Page 18, provides a permanent, upwardly inclined Flashing groove in the wall, which performs the function of a cap and weather protection for the Flashing itself. This cap, being an integral part of the wall, is as permanent as the wall itself, and can not become detached. The metal Flashing Form is not intended to be

NOTE—The Flashing groove of Barrett Flashing Form has the same incline and dimensions as that of Barrett Flashing Block for use in brick walls; hence when brick walls intersect concrete walls or columns, a continuous flashing groove is readily secured by the use of these two devices. This greatly simplifies the problem of flashing installation where this situation occurs.

*Corner of Roof
Showing Concrete
Wall with Flashing
Form and Flashing
Installed*



permanent, its only function being to shape or create the Flashing groove. It is left in the wall merely as a matter of convenience.

The flashing material is installed over one unbroken plane, eliminating the buckling, tearing, pocketing, and special wear, which so frequently occur where flashings are turned in at right or acute angles. The cant construction provides support from below throughout the extent of the Flashing; hence there is no strain from wind and gravity.

Barrett Flashing Form is manufactured of galvanized iron in 8-foot lengths. It provides a flashing groove $\frac{5}{8}$ " wide at the opening and $\frac{1}{2}$ " wide at the upper extremity, extending in the wall to a depth of 2" from the face. The flashing form is sent to the job ready to nail to the wall forms. It is equipped with a continuous wood strip separator to prevent the crushing of the form under the weight of the concrete and to keep the groove clean of all foreign materials. Each shipment includes the necessary number of metal strap brackets for attaching the metal form to the wall form.

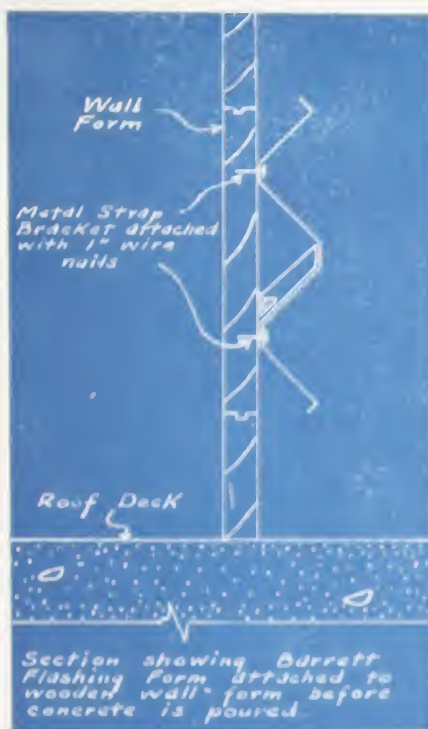
Special mitred pieces are also furnished according to the requirements of each job, to take care of all angles occurring in the walls. The flashing form is simply nailed to the inside face of the wall forms, and remains in the concrete when the wall forms are stripped.

BARRETT FLASHING STRIPS

For detailed description of Barrett Flashing Strips, see page 47.

BARRETT ELASTIGUM

For detailed description of Barrett Elastigum, see page 47.



BARRETT FLASHING FORM MITRED PIECES

for use in wall angles.

Included with shipments of Flashing Form according to the requirements of each job



Inside Corner



Outside Corner



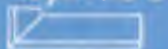
Inside Return Left Hand



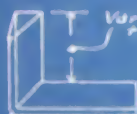
Outside Return Right Hand



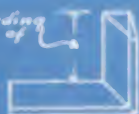
Inside Return Right Hand



Outside Return Left Hand



Combined Outside Corner & Inside Return Left Hand



Combined Outside Corner & Inside Return Right Hand

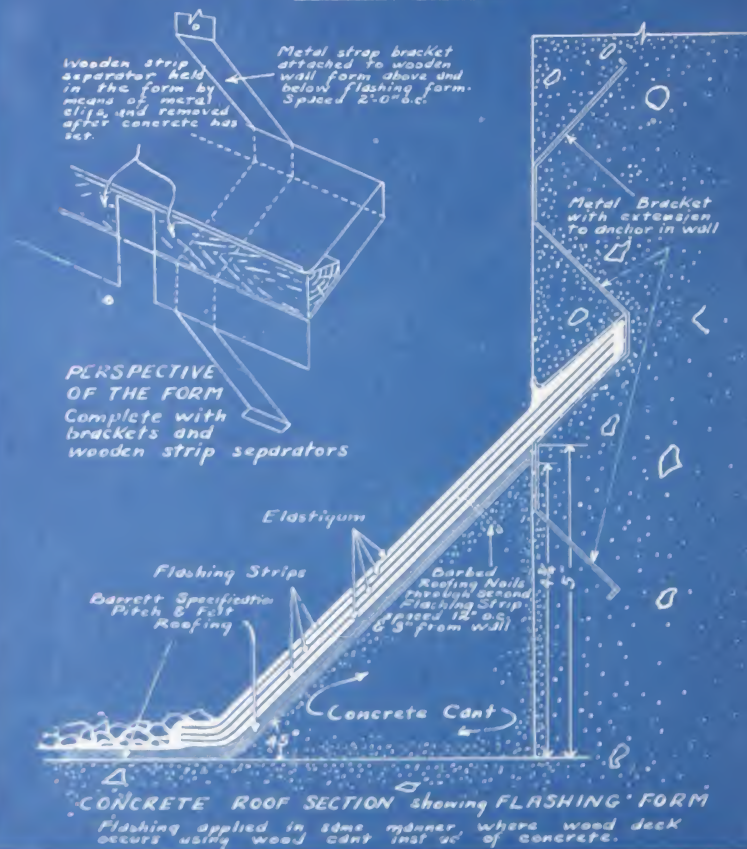


Combined Outside & Inside Corners for left hand recess



Combined Outside & Inside Corners for right hand recess

It is most important that Barrett Flashing Form be installed exactly as specified. Failure to do this lessens its value, and may result in its being of no value for flashing connections.



Metal Flashing Form is provided for use in concrete walls to form flashing groove. This Form is nailed to inside of wall forms with lower edge of flashing groove in a line 5" above and parallel with finished grade line of roof at wall.

After wall forms are removed a 45° cant is formed in angle of roof deck and wall, finishing 1/4" below lower edge of the flashing groove.

After cant is constructed, clips retaining wooden strip separator are bent down, and separator is removed.

Install Flashing Strips after Roofing Felt is in place and before roof surfacing is applied.

Point up flashing groove with Elastigum after Flashing Strips are inserted.

Cross-section of Barrett Flashing Form and Flashing

ENT. U. S. JULY 1, 1919. NO. 1886008
CANADIAN PATENTS PENDING

For Concrete Walls

SPECIFICATION FOR INSTALLATION OF BARRETT FLASHING FORM AND FLASHING IN CONCRETE WALLS



IMPORTANT NOTICE TO ARCHITECTS AND ENGINEERS—
It is most important that Barrett Flashing Form be installed exactly
as specified. Failure to do this lessens its value and may result in its
being of *no value for flashing connections*.

FOR CONCRETE SPECIFICATIONS

BARRETT FLASHING FORM shall be installed in walls
as shown on Drawing No. —. The Flashing Form
shall be attached to the inside of the Wall Form by means
of metal strap brackets spaced not more than 2' 0" apart and
secured by 1" smooth wire nails.

The flashing form shall be set so that the lower edge of the
flashing groove is 5" above and *parallel* with the *finished* grade
line of the roof at wall, as shown on plans. Care shall be exer-
cised when wall forms are removed to avoid breaking concrete
adjacent to the flashing form.

NOTE—Special mitred flashing forms are manufactured for use at right angle external
and internal wall corners. See page 17.

At angle of roof deck and the wall in which Flashing Form
has been installed, provide a cant that will permit of nailing,
the upper edge of which shall terminate $\frac{1}{4}$ " below the flashing
groove. The face of the cant shall have the same incline as
the flashing groove.

Before applying Flashing material, the wooden strip sep-
arator shall be removed and the flashing groove thoroughly
cleaned of all foreign material.

FOR ROOFING SPECIFICATIONS

NOTE—This Flashing shall be installed before gravel, slag, tile, or other surfacing material is applied to the roof surface.

FIRST—Before applying Flashing material, the wooden strip separator shall be removed and the flashing groove thoroughly cleaned of all foreign material.

SECOND—The Felt and Pitch roofing shall be extended up the face of the cant to the wall line and cut off evenly at that point. The layers of Felt shall be solidly cemented together with Pitch and be free from wrinkles or buckles.

THIRD—Over the roofing, covering the cant, and up into the full depth of the flashing groove, apply a heavy uniform layer of Elastigum, into which embed one layer of Barrett Flashing Strip. The joints of the Flashing Strip shall be butted and the Strips shall extend into the full depth of the flashing groove. This operation shall be repeated until three layers of Elastigum and three layers of Flashing Strip have been applied. The second Flashing Strip shall be nailed every twelve inches, three inches from the wall. The Flashing Strips shall be laid so that each layer shall break joints with the underlying layer.

FOURTH—Over the entire surface of the Flashing Strips thus laid, apply a thin uniform layer of Elastigum. The flashing groove shall then be pointed-up with Elastigum. If in warm weather the Elastigum pointing does not stay in place, completely filling the flashing groove, stir a small quantity of Portland Cement into the Elastigum.

FLASHING PROBLEMS SIMPLIFIED

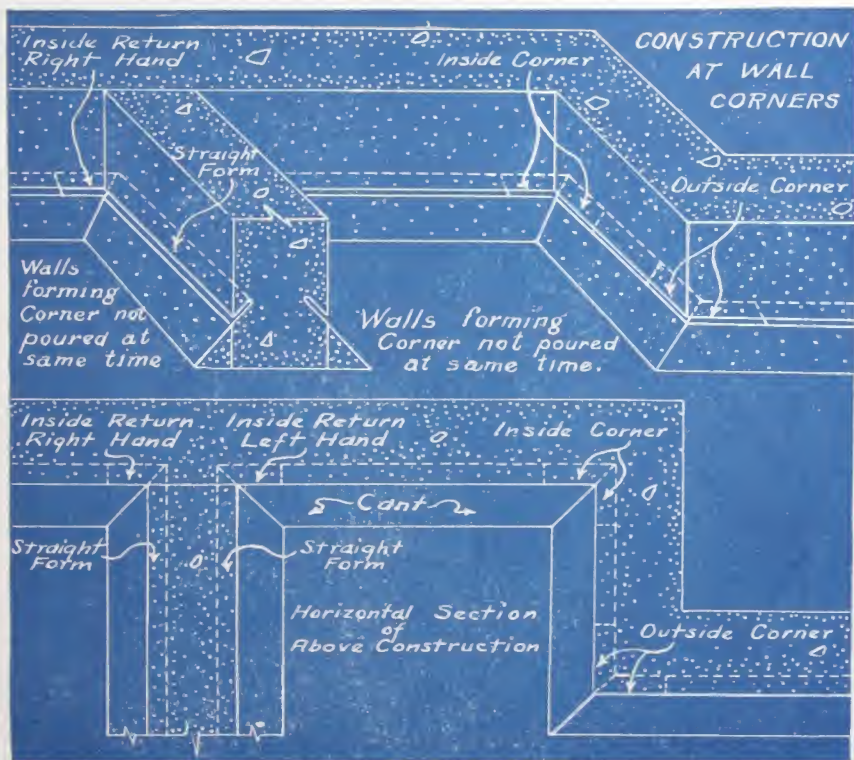
A distinct advantage of this type of Flashing is the simplicity of its installation, even when the wall-line is very irregular. When metal Flashings are used, every wall angle means another process of cutting and fitting and joining, and every joint is a point of weakness. With the various mitred pieces which are included with each shipment of

FLASHING PROBLEMS SIMPLIFIED—CONTINUED

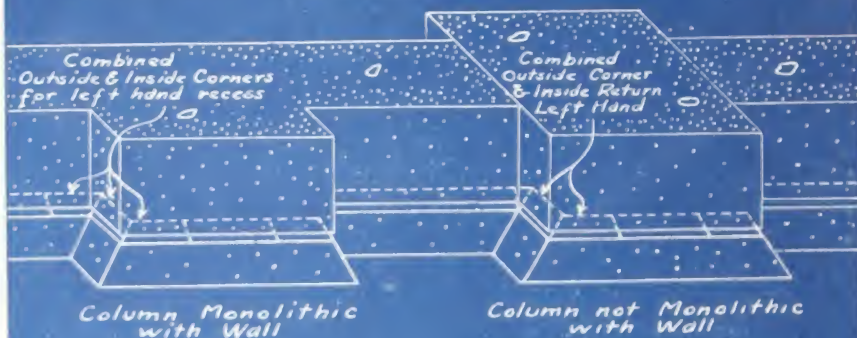
Barrett Flashing Form, according to the requirements of the construction in question, this problem is made very simple.

The difficulty of making a proper Flashing joint is greatly increased where concrete and brick wall construction intersect, as in the case of concrete columns with intervening brick curtain-walls, of concrete parapet walls with intersecting brick fire-walls or pent house walls, etc. With the use of Barrett Flashing Form and Barrett Flashing Block, a continuous Flashing groove is provided having the same dimensions and the same incline throughout.

The following drawings will illustrate the methods of taking care of typical situations:



· CONSTRUCTION · AT · WALL · RECESSES ·



- Horizontal Section of the Above Construction -

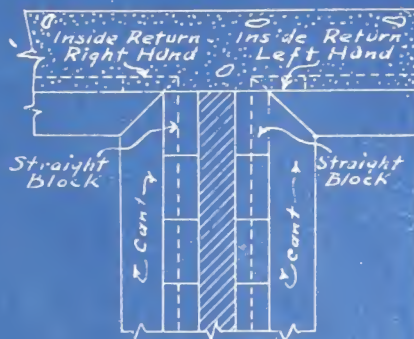
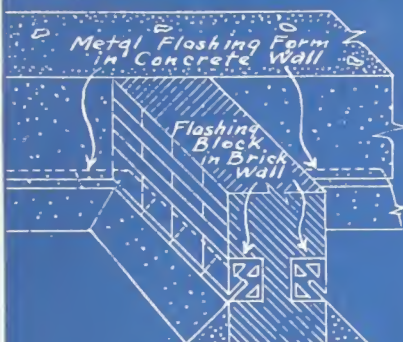
· CONSTRUCTION · AT · FREE · WALL · ENDS ·



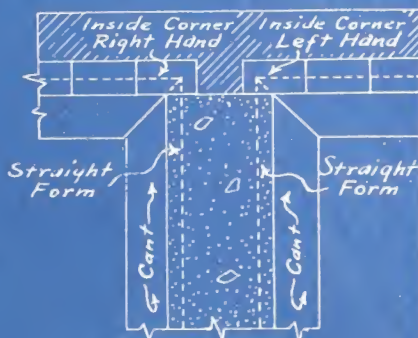
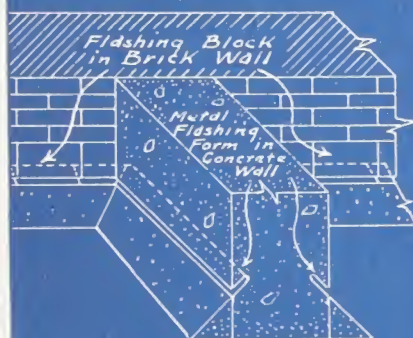
The Flashing Groove is terminated with an Outside Return 5" from the wall end. A wooden block 5" wide, at least 2" thick & at least 6 1/2" high, is fastened to the wall form in the lower corner between the Outside Return and the end of the wall. When wall forms are removed, a space is thus left which permits the returning of the cant into the wall as shown above. After the Flashing Strips have been applied, the corner is squared up with concrete.

CONSTRUCTION WHEN CONCRETE & BRICK JOIN

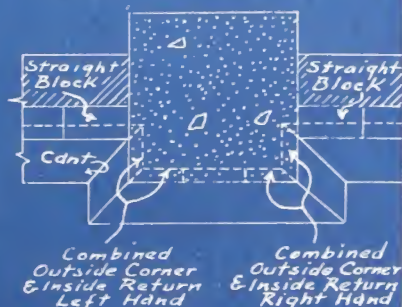
A. BRICK WALL BUTTING CONCRETE WALL



B. CONCRETE WALL BUTTING BRICK WALL



C. BRICK WALL BUTTING CONCRETE COLUMN



BARRETT FLEX-LOCK FLASHING

FOR BRICK WALLS

THIS Flashing construction is applicable to either new or old brick walls. It is similar in principle to the familiar types of cap and base flashings, with the exception that metal is not depended upon for watertightness.

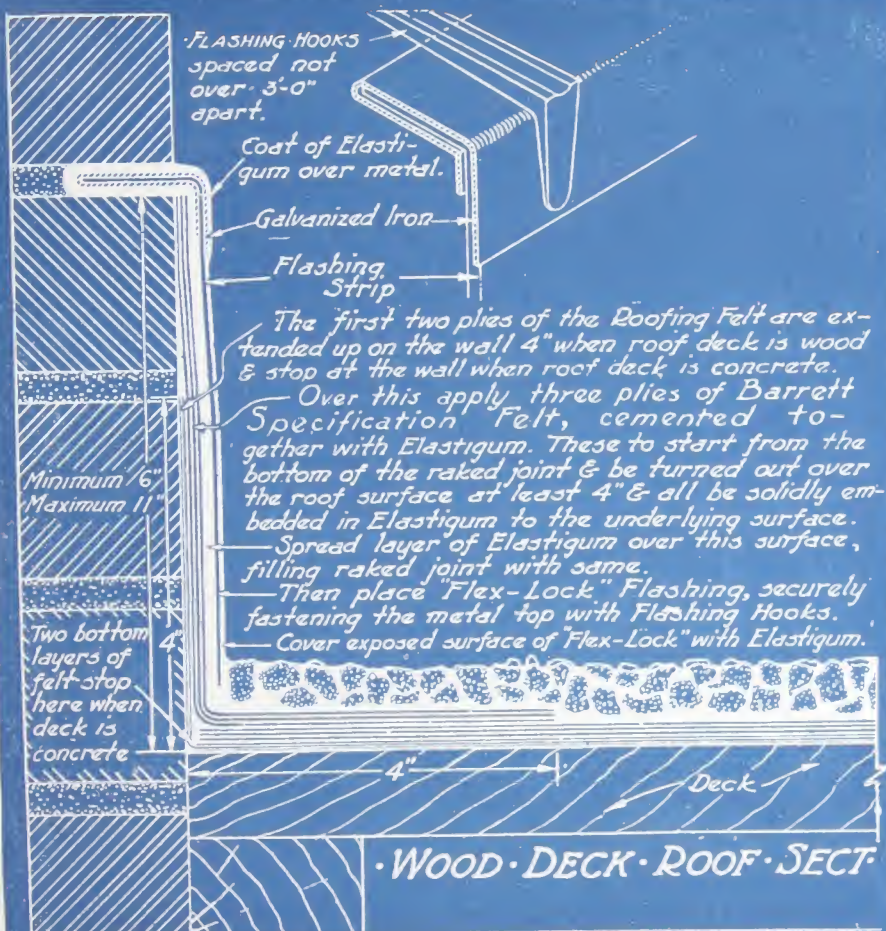
The construction of this Barrett Flashing is shown on next page. As will be seen, it is already prepared for insertion into the raked mortar joint which is liberally filled with Elastigum, making a permanently waterproof joint. The Flashing hooks used in fastening Flex-Lock are $3\frac{1}{2}$ inches long, providing ample holding power even though the cement mortar is of uncertain quality.

Barrett Flex-Lock Flashing provides for expansion and contraction; it is unaffected by climatic conditions; and, unlike metal, it needs no paint. It is easy to install, and is set in place by the same contractor who applies the roofing material. This eliminates division of responsibility for leaks, which has caused so much trouble in the past.

Barrett Flex-Lock Flashing is made in eight-foot strips, weighs approximately eight pounds to the strip, and is shipped in crates containing 200 feet. The flashing hooks specified in connection with it are furnished in each crate. Approximately 150 pounds of Elastigum and one roll of Barrett Specification Felt are required for each 100 lineal feet of Flashing.

*Corner of Roof
Showing "Flex-
Lock" Flash-
ing Installed.*





"Flex-Lock" Flashing is furnished complete, as shown, ready to insert in brick joint.

This Flashing is always installed with the metal cap in a horizontal line and stepped to follow the finished grade line of the roof at the wall.

It is furnished in strips 11" wide and 8' 0" long, complete with metal top.

The Flashing Hooks are supplied with the "Flex-Lock" by The Barrett Company.

Cross-section of "Flex-Lock" Flashing

PAT. U. S. APRIL 2, 1918. NO. 1261276
PAT. CANADA MAY 14, 1918. NO. 184317

For New or Old
Brick Walls

SPECIFICATION FOR INSTALLATION OF BARRETT FLEX-LOCK FLASHING FOR BRICK WALLS



NOTE—Barrett Flex-Lock Flashing shall be installed before the surface coating of Pitch and Gravel or Slag is applied to the roof.

FIRST—The mortar shall be raked out between bricks to a depth of 1 $\frac{1}{4}$ " on a line not more than 11" nor less than 6" above roof level.

NOTE—It is recommended that the masonry specifications provide for the installation of a wooden strip $\frac{1}{4}$ " thick by 1 $\frac{1}{4}$ " wide between brick courses where Flex-Lock is to be inserted.

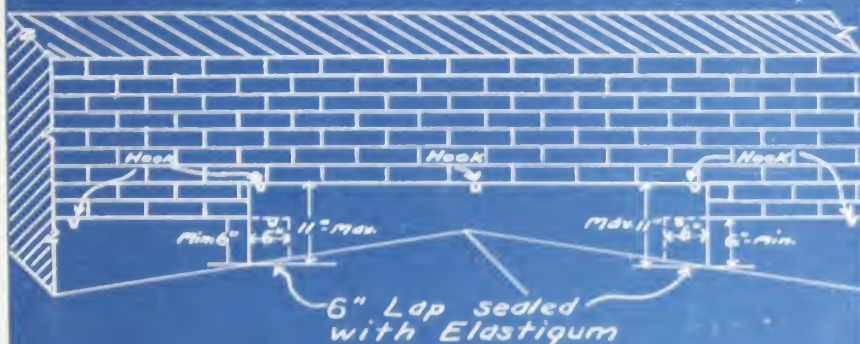
SECOND—On all vertical surfaces where Flex-Lock Flashing is to be installed (*if roof deck is of boards*), the first two plies of Felt used in constructing the roof shall extend 4" up the vertical surfaces, and all additional layers of Felt used in the roofing shall be cut off at the angle of roof deck and vertical surfaces. *All* layers of Felt used in the roofing (*if roof deck is of concrete*), shall be cut at the angle of roof deck and vertical surfaces.

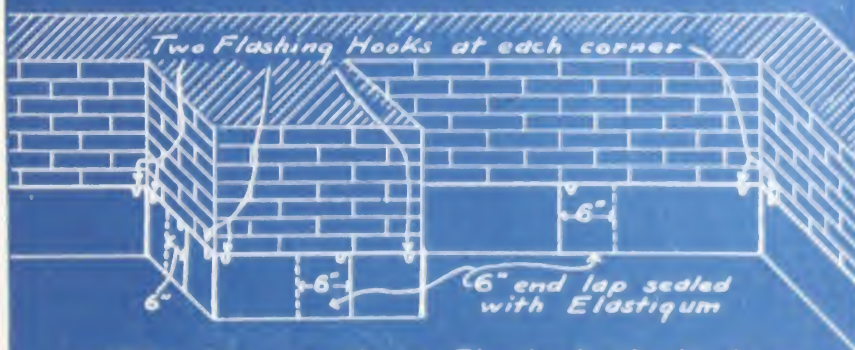
THIRD—Set in the angle three layers of Barrett Specification Felt cemented solidly together and to the underlying surfaces with Elastigum. These three layers of Felt shall be set in separately and shall extend up to the raked joint. The first layer shall extend out on the roof not less than 4", and each succeeding layer shall be stepped out on the roof 1" beyond the preceding one.

FOURTH—Over the vertical surface of the Felt, spread a layer of Elastigum and fill the raked joint with Elastigum.

FIFTH—The Felt edge of the Flex-Lock Flashing shall be cut to correspond with the rake of the roof deck at the wall angle. The Flex-Lock Flashing shall be set in place while the Elastigum on the vertical surface is in a plastic condition. Insert metal edge into the joint of the brick wall, securely fasten in place with flashing hooks spaced not more than 3' 0" apart, and thoroughly embed the Flashing into the underlying Elastigum. All laps and corners must be firmly secured with flashing hooks. All end laps and laps at stepped joints shall be not less than 6" wide and sealed with Elastigum.

SIXTH—Coat the face of the Flex-Lock Flashing, including exposed metal, and seal the joint with Elastigum. If the joint is so wide that the Elastigum does not stay in place completely filling the joint, stir a small quantity of Portland Cement into the Elastigum.





NOTE - The lengths of Flex-Lock should be so adjusted that end-laps never occur at corners -



Make straight cut through insert lip as shown above at X.

To fit inside corner, bend as shown above. Cover gap at Z with piece of metal securely fastened in place.

To fit outside corners, bend as shown above.

A FEW BUILDINGS IN WHICH FLEX-LOCK FLASHING
HAS BEEN INSTALLED



Shops of B. & O. R. R., Cumberland, Md.



*Factory of Cliquot Club Co., Millis,
Mass. Aberthaw Construction Co.,
Boston, Eng. Cont.*



*White Co. Service Station, Phila-
delphia, Pa. Watson Engineering
Co., Cleveland, Ohio, Eng. & Gen'l
Cont.*



*Boiler house of Swift & Co., St. Louis, Mo.
Collins Bros., Kansas City, Gen'l Cont.*



N. Y. Central R. R. round house, Watertown, N. Y. Walsh Construction Co., Syracuse, N. Y., Gen'l Cont.

FLASHING SAWTOOTH MONITOR AND SKYLIGHT CURBS



IMPORTANT NOTE

AS Sawtooth, Monitor, and Skylight Curbs are so variable in design, The Barrett Company will be pleased to be of assistance in the making up of flashing details and specifications where curb construction differs from the details and specifications given hereinafter.

The following details and specifications cover "typical" problems, but even though curb construction differs in detail from those presented, these methods of flashing, employing Elastigum and Barrett Specification Felt, may be followed in practically all cases with positive assurance of the best and most economical results.

BARRETT ELASTIGUM

Barrett Elastigum is, as its name implies, an elastic waterproof cement consisting of a heavy bituminous base combined with non-volatile mineral oil and the right proportion of mineral fibre. It is easily applied with a trowel and spread into a layer of uniform thickness. It forms a tenacious bond between the flashing materials and the vertical surface (of wood, brick, stone, concrete or tile) and eliminates the danger of the Flashing becoming detached from the wall. It permanently retains its elasticity, and when spread in layers between the Felt strips, admits a free movement to meet expansion, contraction, settlement or shrinkage. The alternating layers of Felt and Elastigum form a thick, tough, durable, and absolutely waterproof Flashing.

SPECIFICATION FOR FLASHING SAWTOOTH CURBS

See Important Note on Page 29



If the curb is of concrete, a creosoted wooden nailing strip at least 1" thick, with 2" face and 3" base, shall be inserted immediately under the sill in such manner that its face shall be flush with the face of the curb.

A metal condensation drip pan flashing shall be installed under the sawtooth sash. On the inside, this metal shall be turned up at least $\frac{1}{2}$ " to take care of condensation, and on the outside, shall extend down over the Felt and Elastigum Flashing at least 2".

THE Flashing shall be installed before the final coating of Pitch and Gravel or Slag is applied to the roofing. The surface to be flashed shall be smooth, broomed clean, and free from all loose material.

If roof deck is of concrete, the Felt and Pitch used in covering the Sawtooth valleys shall be cut off at angle of valley deck and Sawtooth curb. If roof deck is of boards, the first two plies of Felt used in constructing the roof shall extend four inches (4") up the Sawtooth curb and all additional layers of Felt used in the roofing shall be cut off at the angle of valley deck and Sawtooth curb.

Over the entire surface of the Sawtooth curb, and out onto the valley roofing not less than four inches (4"), apply a trowel coating of Barrett Elastigum, into which embed one layer of Barrett Specification Tarred Felt. This operation shall be repeated until three layers of Elastigum and three layers of Felt have been applied. All three layers of Felt shall extend up the face of the curb to the under side of the sill. The first layer shall extend out on the roofing at least 4", and each succeeding layer shall be stepped out 1" beyond the preceding one.

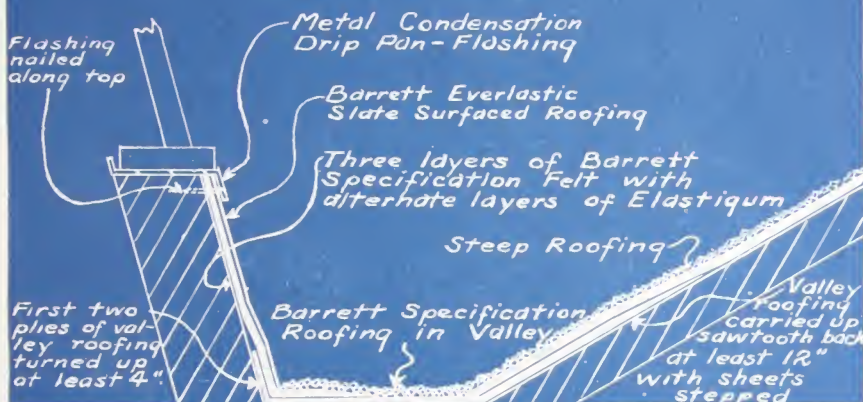
The surface of the final layer of Felt shall be covered with a trowel coating of Elastigum, into the vertical surface of which shall be firmly embedded one layer of Barrett Everlastic Slate Surfaced Roofing (Red or Green) which shall extend from the under side of sill down to the valley, being cut off evenly at the angle.

All joints in the Slate Surfaced Roofing shall be butted.

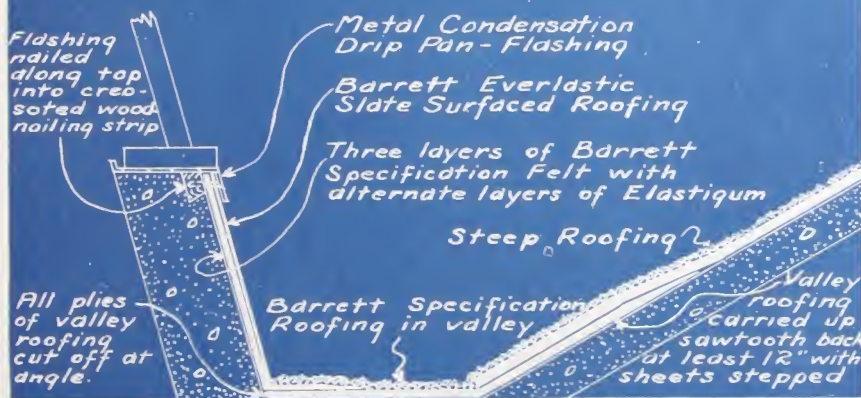
The Felt and Slate Surfaced Roofing shall be securely held in place by nailing along the top edge as high up as possible with large-headed nails. The nail-heads shall be covered with a coating of Elastigum.

FLASHING · SAWTOOTH · CURBS ·

A WOODEN CURB.



B. CONCRETE CURB.



SPECIFICATION FOR FLASHING MONITOR CURBS

See Important Note on Page 29



If the curb is of concrete, a creosoted wooden nailing strip, at least 1" thick, with 2" face and 3" base, shall be inserted immediately under the sill in such manner that its face shall be flush with the face of the curb.

A metal condensation drip-pan flashing shall be installed under the monitor sash. On the inside, this metal shall be turned up at least $\frac{1}{2}$ ", to take care of condensation, and on the outside, shall extend down over the Felt and Elastigum Flashing at least 2".

THE Flashing shall be installed before the final coating of Pitch and Gravel or Slag is applied to the roofing. The surface to be flashed shall be smooth, broomed clean, and free from all loose material.

If roof deck is of concrete, the Felt and Pitch used in covering the roof proper shall be cut off at the angle of roof deck and vertical surfaces. If roof deck is of boards, the first two plies of felt used in constructing the roof shall extend four inches (4") up the vertical surfaces, and all additional layers of Felt used in the roofing shall be cut off at the angle of roof deck and vertical surfaces.

Over the entire vertical surface of the monitor curb, and out on the roofing not less than four inches (4"), apply a trowel coating of Barrett Elastigum, into which embed one layer of Barrett Specification Tarred Felt. This operation shall be repeated until three layers of Elastigum and three layers of Felt have been applied.

All three layers of Felt shall extend up the face of the curb to the under side of the sill. The first layer shall extend out on the roofing at least 4", and each succeeding layer shall be stepped out 1" beyond the preceding one.

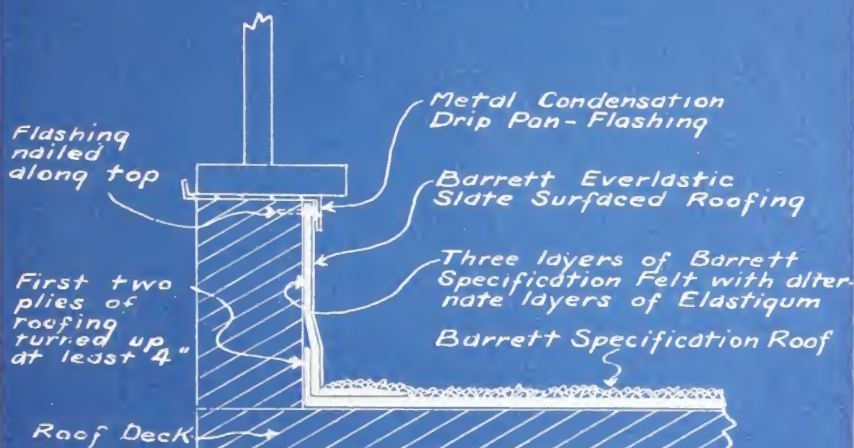
The surface of the final layer of Felt shall be covered with a trowel coating of Elastigum, into the vertical surface of which shall be firmly embedded one layer of Barrett Everlastic Slate Surfaced Roofing (Red or Green), which shall extend from the under side of the sill down to the roof deck, being cut off evenly at the angle.

All joints in the Slate Surfaced Roofing shall be butted.

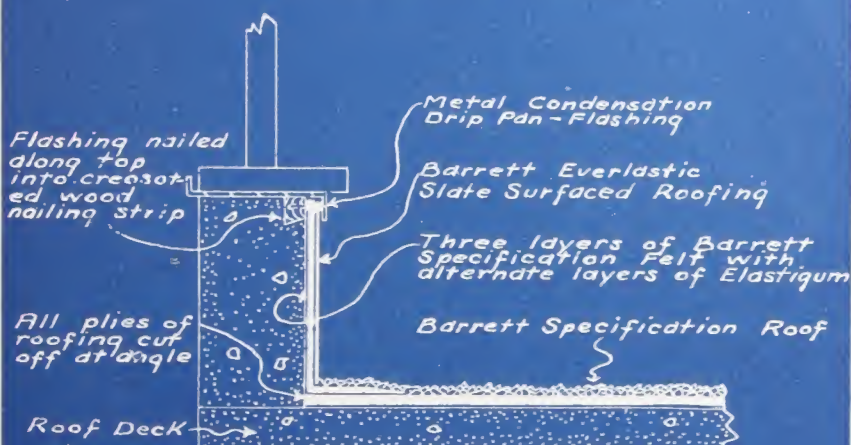
The Felt and Slate Surfaced Roofing shall be securely held in place by nailing along the top edge as high up as possible, with large-headed nails. The nail heads shall be covered with a coating of Elastigum.

FLASHING · MONITOR · CURBS ·

A. WOODEN CURB.



B. CONCRETE CURB.



SPECIFICATION FOR FLASHING SKYLIGHT CURBS

See Important Note on Page 29



If the curb is of concrete, a creosoted wooden nailing strip, at least 1" thick, with 2" face and 3" base, shall be inserted along the center line of the top of the curb in such manner that its face shall be flush with the top face of the curb.

THE Flashing shall be installed before the final coating of Pitch and Gravel or Slag is applied to the roofing. If skylight has been placed, it shall be removed. The surface to be flashed shall be smooth, broomed clean, and free from all loose material.

If roof deck is concrete, the Felt and Pitch used in covering the roof proper shall be cut off at the angle of roof deck and vertical surfaces. If roof deck is of boards, the first two plies of Felt used in constructing the roof shall extend four inches (4") up the vertical surfaces, and all additional layers of Felt used in the roofing shall be cut off at the angle of roof deck and vertical surfaces.

Over the entire vertical surface and top edge (to within 1" of the inner edge) of the skylight curb, and out on the roofing not less than four inches (4"), apply a trowel coating of Barrett Elastigum, into which embed one layer of Barrett Specification Tarred Felt. This operation shall be repeated until three layers of Elastigum and three layers of Felt have been applied.

All three layers of Felt shall extend up the face of the curb and over the top to within 1" of the inner edge. The first layer shall extend out on the roofing at least 4" and each succeeding layer shall be stepped out 1" beyond the preceding one.

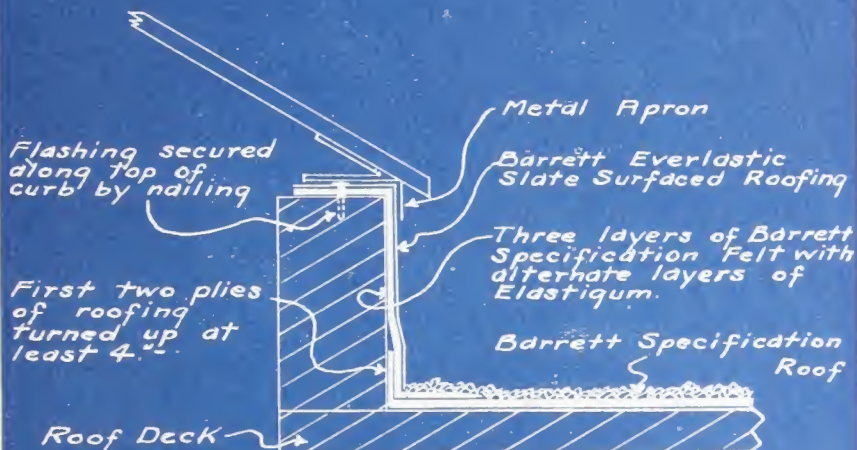
The surface of the final sheet of Felt shall be covered with a trowel coating of Elastigum, into the vertical surface of which shall be firmly embedded one layer of Barrett Everlastic Slate Surfaced Roofing (Red or Green), which shall extend over the top to within 1" of the inner edge of curb and down to the roof deck, being cut off evenly at the angle.

All joints in the Slate Surfaced Roofing shall be butted.

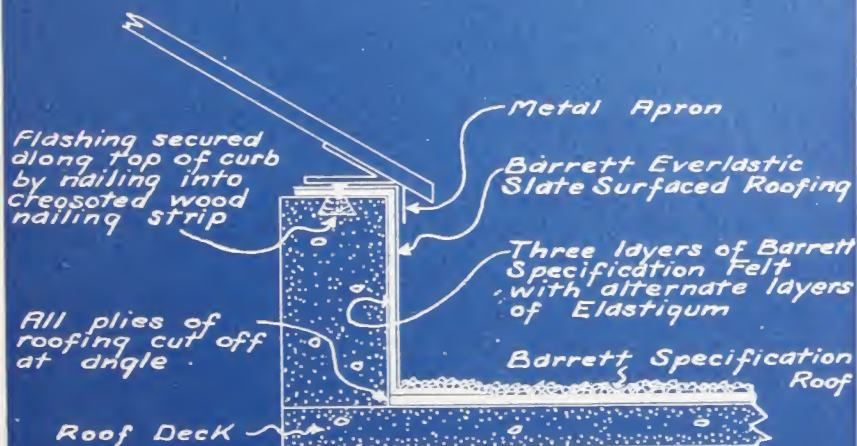
The Felt and Slate Surfaced Roofing shall be securely held in place by nailing along the top about an inch from the edge of the Felt and Slate Surfaced Roofing. The nail heads shall be covered with a coating of Elastigum.

FLASHING · SKYLIGHT · CURBS ·

A. WOODEN CURB.



B. CONCRETE CURB.



HOLT

ROOF CONNECTIONS



WHATEVER your drainage problem may be, there is a type and size of Holt Roof Connection which will successfully meet the conditions. In addition to leader connections, Holt Roof Connections are made also for vents, pipes, braces and flagpoles.

Whether your roof is flat or steep, whether the roof deck is of wood, concrete, tile or gypsum, there is a type and style of Holt Roof Connection particularly adaptable.

Holt Roof Connections can be connected with any kind of surfacing material—gravel, metal, tile, brick or smooth-surfaced roofs.

Types 1, 3, 4, 5, 6-L, 6-T and 6-V are designed to meet the varying conditions presented by flat roof decks. Type 2 is specially designed for use with sloping roofs, and has a wide field in connection with sawtooth construction and wherever valleys or parapet wall gutters are so narrow that a specially designed connection is required. Since this type is installed in an inclined roof deck, it obviates the necessity of constructing flat crickets in drainage valleys. It is adjustable to varying inclines.

Security against leaks is based on the following fundamental principles, which are the characteristics of Holt Roof Connections:

Mechanically compact, they do not require the cutting away of a large amount of sustaining roof structure, which must be done to receive the old style outlet boxes and cast iron roof outlets used in the past.

For Types 1, 3 and 4 a wide copper flashing flange is fused to each of these Connections. Fusing joints requires intense heat and extreme care in workmanship. It is a factory job

and is a necessary operation to provide a permanent watertight Connection. It is not good or safe practice to permit flashing flanges to be soldered on the job. It is a difficult field operation even under the best of conditions.

For Types 2, 5, 6-L, 6-T and 6-V, a wide copper flashing flange is furnished with each of these Connections. All necessary parts are provided to bolt the flashing flange to the Connection, an operation done in accordance with the best mechanical practice, and one that provides a permanent watertight joint. This is the only dependable method of creating a watertight flashing joint where a field operation is necessary and Types 2, 5, 6-L, 6-T and 6-V come under this classification.

A series of three Gravel Stops and a cast iron strainer entirely prevent any loose gravel, leaves or roof-rubbish from washing into and clogging the leader line.

The Connection is made integral with the roof deck by means of a locking arrangement. This eliminates any strain or movement at the roof line.

The expansion joint or flexible connection creates a water and gas-tight joint, and prevents leaks around outlets due to settlement or shrinkage of roof deck and expansion and contraction in leader lines. It overcomes collapsing and condensation which are the inherent weaknesses of the old style connections.

Made of heavy copper and cast iron, it is durable.

Holt Connections are easily specified, readily obtainable at our various Branches, installed at minimum cost, and carry with them a positive assurance of uninterrupted service for as long a period of time as any other part of the roof construction.

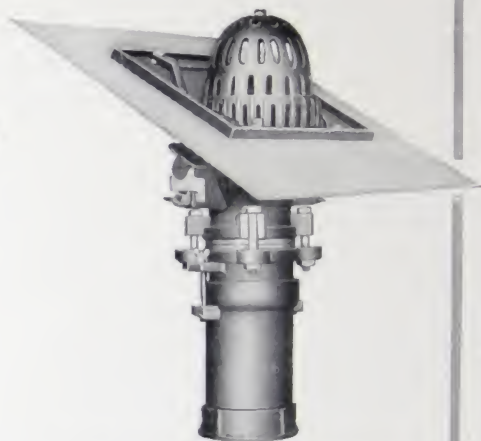
Send for Service Sheets Nos. 4, 5 and 6.



Holt Roof Leader Connection

TYPE No. 1

*For full details of use and specifications,
ask for Service Sheet No. 4.*



Holt Roof Leader Connection

TYPE No. 2

(For Sloping Roofs)

*For full details of use and specifications,
ask for Service Sheet No. 6.*



Holt Roof Leader Connection

TYPE No. 3

(Flush Drain Type)

*For full details of use and specifications,
ask for Service Sheet No. 4.*



Holt Roof Vent Connection

TYPE No. 4

*For full details of use and specifications,
ask for Service Sheet No. 4.*



Holt Roof Leader Connection

TYPE No. 5

*For full details of use and specifications,
ask for Service Sheet No. 5.*



Holt Roof Leader Connection

TYPE No. 6-L

*For full details of use and specifications,
ask for Service Sheet No. 5.*



Holt Roof Leader Connection

TYPE No. 6-T

(Flush Drain)

*For full details of use and specifications,
ask for Service Sheet No. 5.*



Holt Roof Vent Connection

TYPE No. 6-V

*For full details of use and specifications,
ask for Service Sheet No. 5.*

DAMP-PROOF TREATMENT FOR PARAPET AND FIRE WALLS



PARAPET and fire walls are the cause of much trouble through leaks, and these leaks are usually attributed to the roofing. There are many causes for these leaks, the principal ones being cracked or broken cement copings, leaky joints in flat stone copings, poor pointing up of brick joints, poor brick, poor cement mortar, and the omission of a damp-proof course built in the wall.

Elastigum spread in a moderately thin layer over the inside of parapet and fire walls and over the top of these walls where it is practical to do so, provides an excellent resistant. It keeps water out of the walls and consequently out of the building.

*Damp-proofing a
parapet wall
with Elastigum
makes a permanent
water-tight job.*



For brick walls, the surface to be damp-proofed with Elastigum must be made clean, and all joints between the brick must be properly pointed with cement mortar.

For coping which has cracked or is leaking, the Elastigum may be applied directly over the coping and the cracks filled, provided, of course, the black appearance of the Elastigum on the coping is not objectionable. Better protection and neater appearance may be obtained by removing the coping and applying a good heavy layer of Elastigum underneath, into which the coping is reset.

As parapet and fire walls present variable conditions, the foregoing recommendations are only applicable to the types of wall construction mentioned. Unusual or different conditions require special treatment for which special specifications will be furnished upon receipt of complete details of conditions and construction.

*Resetting
a leaky coping
in Elastigum*



Barrett Specification Roofs

BARRETT Specification Roofs, Type "AA" and Type "A," are the accepted standard of modern Roofing construction for all flat roofed buildings. These two types are applied in the same manner and are constructed of the same durable waterproofing materials, the only difference being in the quantities of these materials used.

The Barrett Specification Type "AA" Roof, for use over Board Sheathing, is constructed of 5 plies of Barrett Specification Tarred Felt and a Dry Sheet. It is mopped solid between the plies with Barrett Specification Pitch above the second ply so that Felt does not touch Felt. The top coat is poured. A minimum of two hundred and thirty-five (235) pounds of Barrett Specification Waterproofing Materials for each one hundred (100) square feet is used.

The Barrett Specification Type "AA" Roof, for use over Concrete, is constructed of 4 plies of Barrett Specification Tarred Felt, mopped solid between the plies with Barrett Specification Pitch so that Felt does not touch Felt. The top coat is poured. A minimum of two hundred and sixty-five (265) pounds of Barrett Specification Waterproofing Materials for each one hundred (100) square feet is used.

The Barrett Specification Type "A" Roof for use over Board Sheathing, is constructed of 4 plies of Barrett Specification Tarred Felt and a Dry Sheet. It is mopped solid between the plies with Barrett Specification Pitch above the second ply, so that Felt does not touch Felt. The top coat is poured. A minimum of one hundred and ninety-five (195) pounds of Barrett Specification Waterproofing Materials for each one hundred (100) square feet is used.

The Barrett Specification Type "A" Roof for use over Concrete is constructed of 3 plies of Barrett Specification Tarred Felt, mopped solid between the plies with Barrett Specification Pitch, so that Felt does not touch Felt. The top coat is poured. A minimum of two hundred and twenty-five (225) pounds of Barrett Specification Waterproofing Materials for each one hundred (100) square feet is used.

A Twenty (20) Year and Ten (10) Year Surety Bond are offered on all Barrett Specification Roofs Type "AA" and Type "A" respectively, of 50 squares and over, in all cities of 25,000 population and more, and in smaller places where our inspection service is available. The Surety Bond issued on Barrett Specification Roofs exempts the owner from all roof maintenance expense due to ordinary wear and tear of the elements for a term of Twenty or Ten Years, as the case may be. It is issued by one of the largest Surety Companies in America.

Our only requirements are that the Barrett Specification, dated April 15, 1920, shall be strictly followed and that the roofing contractor shall be approved by us and his work subject to our inspection.

BARRETT SPECIFICATION

TYPE "AA" ROOF

FOR USE OVER BOARD SHEATHING—5 PLIES

Revised April 15, 1920

This Specification shall not be used where the roof incline exceeds two (2) inches to one (1) foot.

The roof deck shall be of seasoned lumber, smooth and free from loose boards, large cracks or knots, and free from loose material. If roof deck is inclined, it shall be properly graded to outlets.

FIRST:—Lay one (1) thickness of Sheathing Paper or unsaturated Felt weighing not less than five (5) pounds per one hundred (100) square feet, lapping the sheets at least one (1) inch.

SECOND:—Over the entire surface lay two (2) plies of Specification Tarred Felt, lapping each sheet seventeen (17) inches over preceding one, and nail as often as is necessary to hold in place until remaining Felt is laid.

THIRD:—Coat the entire surface uniformly with Specification Pitch.

FOURTH:—Over the entire surface lay three (3) plies of Specification Tarred Felt, lapping each sheet twenty-two (22) inches over preceding one, mopping with Specification Pitch the full twenty-two (22) inches on each sheet, so that in no place shall Felt touch Felt. Such nailing as is necessary shall be done so that all nails will be covered by not less than two (2) plies of Felt.

FIFTH:—Over the entire surface pour from a dipper a uniform coating of Specification Pitch, into which, while hot, embed not less than four hundred (400) pounds of Gravel or three hundred (300) pounds of Slag for each one hundred (100) square feet. The Gravel or Slag shall be from one-quarter ($\frac{1}{4}$) to five-eighths ($\frac{5}{8}$) inch in size, dry and free from dirt.

GENERAL:—The Felt shall be laid without wrinkles or buckles. Not less than one hundred and fifty (150) pounds of Pitch shall be used for constructing each one hundred (100) square feet of completed roof, and the Pitch shall not be heated above 400 degrees Fahrenheit.

The roof shall be applied by a Roofing Contractor approved by The Barrett Company. He shall furnish The Barrett Company's Surety Bond Guaranty issued by the U. S. Fidelity and Guaranty Co., of Baltimore, covering a period of twenty (20) years from date of completion, in accordance with Note No. 1.

NOTE NO. 1.—The Barrett Company will give its 20-Year Guaranty Bond on all jobs of five thousand square feet, or more, in cities of 25,000 population and upwards, in the United States and Canada, and in smaller centers where its Inspection Service is available, providing the roof is laid by a roofing contractor approved by The Barrett Company, in strict accordance with the above Specification and subject to Barrett inspection and approval.

NOTE NO. 2.—We advise incorporating the full wording of the Specification and inserting roofing details in plans, in order to avoid any misunderstanding. If an abbreviated form is desired, the following is suggested:

ABBREVIATED SPECIFICATION

ROOFING:—Shall be a Barrett Specification Roof—Type "AA," laid in accordance with The Barrett Specification (for use over Board Sheathing), dated April 15, 1920, by a Roofing Contractor approved by The Barrett Company. The Roofing Contractor shall furnish The Barrett Company's Surety Bond Guaranty for twenty years, in accordance with Note No. 1 of said Specification.

BARRETT SPECIFICATION

TYPE "AA" ROOF

FOR USE OVER CONCRETE—4 PLIES

Revised April 15, 1920.

This Specification shall not be used where the roof incline exceeds one (1) inch to one (1) foot.
The roof deck shall be smooth, firm, dry and free from loose material. If roof deck is inclined, it shall be properly graded to outlets.

FIRST:—Coat the concrete uniformly with Specification Pitch.

SECOND:—Over the entire surface lay four (4) plies of Specification Tarred Felt lapping each sheet twenty-four and one-half ($24\frac{1}{2}$) inches over preceding one, mopping with Specification Pitch the full twenty-four and one-half ($24\frac{1}{2}$) inches on each sheet, so that in no place shall Felt touch Felt.

THIRD:—Over the entire surface pour from a dipper a uniform coating of Specification Pitch, into which, while hot, embed not less than four hundred (400) pounds of Gravel or three hundred (300) pounds of Slag for each one hundred (100) square feet. The Gravel or Slag shall be from one-quarter ($\frac{1}{4}$) to five-eighths ($\frac{5}{8}$) inch in size, dry and free from dirt.

GENERAL:—The Felt shall be laid without wrinkles or buckles. Not less than two hundred (200) pounds of Pitch shall be used for constructing each one hundred (100) square feet of completed roof, and the Pitch shall not be heated above 400 degrees Fahrenheit.

The roof shall be applied by a Roofing Contractor approved by The Barrett Company. He shall furnish The Barrett Company's Surety Bond Guaranty issued by the U. S. Fidelity and Guaranty Company, of Baltimore, covering a period of twenty years from date of completion, in accordance with Note No. 1.

NOTE NO. 1.—The Barrett Company will give its 20-Year Guaranty Bond on all jobs of five thousand square feet, or more, in cities of 25,000 population and upwards, in the United States and Canada and in smaller centers where its Inspection Service is available, providing the roof is laid by a roofing contractor approved by The Barrett Company, in strict accordance with the above Specification and subject to Barrett inspection and approval.

NOTE NO. 2.—We advise incorporating the full wording of the Specification and inserting roofing details in plans, in order to avoid any misunderstanding. If an abbreviated form is desired, the following is suggested:

ABBREVIATED SPECIFICATION

ROOFING:—Shall be a Barrett Specification Roof—Type "AA" laid in accordance with the Barrett Specification (for use over Concrete), dated April 15, 1920, by a Roofing Contractor approved by The Barrett Company. The Roofing Contractor shall furnish The Barrett Company's Surety Bond Guaranty for twenty years, in accordance with Note No. 1 of said Specification.

BARRETT SPECIFICATION

TYPE "A" ROOF

FOR USE OVER BOARD SHEATHING—4 PLIES

Revised April 15, 1920.

This Specification shall not be used where the roof incline exceeds two (2) inches to one (1) foot. The roof deck shall be of seasoned lumber, smooth and free from loose boards, large cracks or knots, and free from loose material. If roof deck is inclined, it shall be properly graded to outlets.

FIRST:—Lay one (1) thickness of Sheathing Paper or unsaturated Felt weighing not less than five (5) pounds per one hundred (100) square feet, lapping the sheets at least one (1) inch.

SECOND:—Over the entire surface lay two (2) plies of Specification Tarred Felt, lapping each sheet seventeen (17) inches over preceding one, and nail as often as is necessary to hold in place until remaining Felt is laid.

THIRD:—Coat the entire surface uniformly with Specification Pitch.

FOURTH:—Over the entire surface lay two (2) plies of Specification Tarred Felt, lapping each sheet seventeen (17) inches over preceding one, mopping with Specification Pitch the full seventeen (17) inches on each sheet, so that in no place shall Felt touch Felt. Such nailing as is necessary shall be done so that all nails will be covered by not less than one (1) ply of Felt.

FIFTH:—Over the entire surface pour from a dipper a uniform coating of Specification Pitch, into which, while hot, embed not less than four hundred (400) pounds of Gravel or three hundred (300) pounds of Slag for each one hundred (100) square feet. The Gravel or Slag shall be from one-quarter ($\frac{1}{4}$) to five-eighths ($\frac{5}{8}$) inch in size, dry and free from dirt.

GENERAL:—The Felt shall be laid without wrinkles or buckles. Not less than one hundred and twenty-five (125) pounds of Pitch shall be used for constructing each one hundred (100) square feet of completed roof, and the Pitch shall not be heated above 400 degrees Fahrenheit.

The roof shall be applied by a Roofing Contractor approved by The Barrett Company. He shall furnish The Barrett Company's Surety Bond Guaranty issued by the U. S. Fidelity and Guaranty Co., of Baltimore, covering a period of ten (10) years from date of completion, in accordance with Note No. 1.

NOTE NO. 1.—The Barrett Company will give its 10-Year Guaranty Bond on all jobs of five thousand square feet, or more, in cities of 25,000 population and upwards, in the United States and Canada, and in smaller centers where its Inspection Service is available, providing the roof is laid by a roofing contractor approved by The Barrett Company, in strict accordance with the above Specification and subject to Barrett inspection and approval.

NOTE NO. 2.—We advise incorporating the full wording of the Specification and inserting roofing details in plans, in order to avoid any misunderstanding. If an abbreviated form is desired, the following is suggested:

ABBREVIATED SPECIFICATION

ROOFING:—Shall be a Barrett Specification Roof—Type "A," laid in accordance with The Barrett Specification (for use over Board Sheathing), dated April 15, 1920, by a Roofing Contractor approved by The Barrett Company. The Roofing Contractor shall furnish The Barrett Company's Surety Bond Guaranty for ten years, in accordance with Note No. 1 of said Specification.

BARRETT SPECIFICATION
TYPE "A" ROOF
FOR USE OVER CONCRETE—3 PLIES

Revised April 15, 1920.

This Specification shall not be used where the roof incline exceeds one (1) inch to one (1) foot.

The roof deck shall be smooth, firm, dry and free from loose material. If roof deck is inclined, it shall be properly graded to outlets.

FIRST:—Coat the concrete uniformly with Specification Pitch.

SECOND:—Over the entire surface lay three (3) plies of Specification Tarred Felt, lapping each sheet twenty-two (22) inches over preceding one, mopping with Specification Pitch the full twenty-two (22) inches on each sheet so that in no place shall Felt touch Felt.

Third:—Over the entire surface pour from a dipper a uniform coating of Specification Pitch, into which, while hot, embed not less than four hundred (400) pounds of Gravel or three hundred (300) pounds of Slag for each one hundred (100) square feet. The Gravel or Slag shall be from one-quarter ($\frac{1}{4}$) inch to five-eighths ($\frac{5}{8}$) inch in size, dry and free from dirt.

GENERAL:—The Felt shall be laid without wrinkles or buckles. Not less than one hundred and seventy-five (175) pounds of Pitch shall be used for constructing each one hundred (100) square feet of completed roof, and the Pitch shall not be heated above 400 degrees Fahrenheit.

The roof shall be applied by a Roofing Contractor approved by The Barrett Company. He shall furnish The Barrett Company's Surety Bond Guaranty issued by the U. S. Fidelity and Guaranty Company, of Baltimore, covering a period of ten (10) years from date of completion, in accordance with Note No. 1.

NOTE NO. 1.—The Barrett Company will give its 10-Year Guaranty Bond on all jobs of five thousand square feet or more, in cities of 25,000 population and upwards, in the United States and Canada and in smaller centers where its Inspection Service is available, providing the roof is laid by a roofing contractor approved by The Barrett Company, in strict accordance with the above Specification and subject to Barrett inspection and approval.

NOTE NO. 2.—We advise incorporating the full wording of the Specification and inserting roofing details in plans, in order to avoid any misunderstanding. If an abbreviated form is desired, the following is suggested:

ABBREVIATED SPECIFICATION

ROOFING:—Shall be a Barrett Specification Roof—Type "A," laid in accordance with the Barrett Specification (for use over Concrete), dated April 15, 1920, by a Roofing Contractor approved by The Barrett Company. The Roofing Contractor shall furnish The Barrett Company's Surety Bond Guaranty for Ten (10) Years, in accordance with Note No. 1 of said Specification.

BARRETT FLASHING STRIPS



BARRETT FLASHING STRIPS are made especially for use with Barrett Flashing Block and Barrett Flashing Form. They are made in standard widths of 12 inches put up in rolls of 50 feet. Six rolls are required for each 100 lineal feet of completed flashing. This material comes ready to apply, is flexible, durable and waterproof, and in combination with Elastigum, as specified, makes the most economical and satisfactory flashing that is known to modern skill in building construction.

BARRETT ELASTIGUM

Used with Barrett Flashing Block and Barrett Flashing Form

BARRETT ELASTIGUM is, as its name implies, an elastic waterproof cement consisting of a heavy bituminous base combined with non-volatile mineral oils and the right proportion of mineral fibre. From 125 to 150 pounds of Elastigum are required for each 100 lineal feet of Barrett Flashing.

It provides an easily applied, permanently waterproof and tenacious joint between wood, metal, stone or concrete, and, when spread in layers between the Flashing Strips, provides for free movement to meet expansion, contraction, settlement, vibration, and shrinkage. This free movement has a factor of safety of at least two inches, so that danger of pulling out of the wall is eliminated by a wide margin. As will be noted, no wedging or packing is required, hence all hazards of initial cracks, breaks, or other wall disturbances are eliminated.



The *Barrett* Company



NEW YORK	CHICAGO	PHILADELPHIA	BOSTON
ST. LOUIS	CLEVELAND	CINCINNATI	PITTSBURGH
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YOUNGSTOWN	JOHNSTOWN	COLUMBUS	RICHMOND
TOLEDO	BETHLEHEM	ELIZABETH	LATROBE
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The BARRETT COMPANY, Limited

MONTREAL	TORONTO	WINNIPEG	VANCOUVER
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